

Date: Fri, 2 Sep 94 04:30:17 PDT
From: Ham-Digital Mailing List and Newsgroup <ham-digital@ucsd.edu>
Errors-To: Ham-Digital-Errors@UCSD.Edu
Reply-To: Ham-Digital@UCSD.Edu
Precedence: Bulk
Subject: Ham-Digital Digest V94 #292
To: Ham-Digital

Ham-Digital Digest Fri, 2 Sep 94 Volume 94 : Issue 292

Today's Topics:

9600 baud using Kenwood TM201 & TM401 (2 msgs)
Jnos and PK232MBX ?
TAPR2 TNC Mods; Bit Regeneration?
wanted: tnc firmware with netrom

Send Replies or notes for publication to: <Ham-Digital@UCSD.Edu>
Send subscription requests to: <Ham-Digital-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Digital Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-digital".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 31 Aug 94 00:03:00 GMT
From: tulane!darwin.sura.net!wa4mei!totrbbs!steve.diggs@ames.arpa
Subject: 9600 baud using Kenwood TM201 & TM401
To: ham-digital@ucsd.edu

-> Steve,
->
-> I have the 201/401 pair sitting in my storage cabinet collecting dust
-> and I would like to put them to use. I would appreciate if you would
-> eMail me or post the mod information that you currently have. I would
-> like to at least do the receive mod so I can monitor the 9600 baud
-> activity around the valley.
-> Please keep me on your eMail list, if and when you resolve the
-> transmit issue. I will do the same on this end, if I find out any
-> other information.
-> Thanks & 73s,
-> Tom WB7ASR

Tom,

Welllll, I guess you're a glutton for punishment. <g> RXA is available at the junction of D4 and R29 in the IF section. I used Radio Shack 10/26 AWG shielded audio cable, and made the connection on the solder side of the board. I found a ground close by on the board and soldered the shield to that. As I recall, I didn't use a resistor between the modem and the radio, because the signal level was about right for the TAPR 9600 modem. You may need some level compensation; a 2 to 10K resistor will do the job. If the level is too high, the modem is swamped and loses sensitivity.

On the TXA side, I interface 9600 transmit audio at R90. which is on the audio side of the varactor, isolated by a polarized capacitor. (which is good) I used a 2k resistor in series between the modem and the insertion point.

Again, this is the interface info for a Kenwood TM401. IT IS NOT TOTALLY SUCCESSFULL. Long packets will be distorted by this transmit interface.

I've been quite impressed my James Miller's helpful attitude, and expect to hear from him soon. Will let you know what I get from him ASAP. I would appreciate the same in return, if anything turns up.

Regards,
Steve Diggs, KB4ZTN
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Date: 1 Sep 1994 04:34:41 GMT
From: ihnp4.ucsd.edu!agate!darkstar.UCSC.EDU!news.hal.COM!olivea!korie!
newsworthy.West.Sun.COM!abyss.West.Sun.COM!usenet@network.ucsd.edu
Subject: 9600 baud using Kenwood TM201 & TM401
To: ham-digital@ucsd.edu

In article 1a0wRc4w165w@lmr.mv.com, rapp@lmr.mv.com (Larry Rappaport) writes:
>steve.diggs@totrbbs.radio.org (Steve Diggs) writes:

>
>> I haven't given up completely. James Miller, G3RUH, has agreed to look
>> at the schematics of this rig with ideas on ANY POSSIBLE way to make the
>> rig work. Possibilities are to lengthen the RC time constant in the
>> PLL's feedback circuit, or perhaps modulate the master reference
>> oscillator of the PLL, along with the Varactor. (To prevent the PLL from
>> detecting a frequency drift) James just sent me a confirming note on

>> 8/28 acknowledging receipt of the info package, and his intent to start
>> on the project in the near future.

>

>I would definitely try first to lengthen the RC time constant in the PLL
>feedback circuit, since that might be the easiest to do.

You gotta be really careful when you start tinkering with the PLL loop filter. There are usually multiple time constants of interest. It is a really good idea to first measure the VCO gain over several band segments (since the gain of most VCOs isn't exactly linear with respect to frequency), determine the phase comparator gain and the loop filter characteristics. Then, calculate the loop frequency and phase response.

Make sure that your modifications to the PLL loop filter do not make the PLL unstable or increase the reference frequency sideband amplitude. Also, some loop filters have an interaction between the corner frequency and damping factor; by the time you get a low enough corner frequency, the loop will tend to ring at a very low frequency. Also, the lower the loop filter corner frequency, the longer it takes the loop to lock up, though some filters have diodes inserted in a cheap adaptive filter scheme.

By the way, MX*COM publishes a very nice databook, which includes charts of BER vs low frequency response of transmitter and receiver. They recommend very highly using "two point modulation", in other words, modulate the VCO and the PLL reference. By modulating the reference, the loop regains good low frequency (even DC) response.

A previous poster suggested that the longer the packet, the more the PLL could adjust out the packet. This is not accurate; the reality is the PLL always is damping out low frequency modulation of the VCO. This has a negative effect on the bit error rate (BER), such that longer frames are pretty much certain to have an error while the shorter frames squeak past.

* Dana H. Myers KK6JQ, DoD#: j | Views expressed here are

*

* (310) 348-6043 | mine and do not necessarily *

* Dana.Myers@West.Sun.Com | reflect those of my employer

*

* "Sir, over there.... is that a man?"

*

Date: Wed, 31 Aug 1994 17:05:49 GMT

From: psinnntp!arrl.org!bbattles@uunet.uu.net

Subject: Jnos and PK232MBX ?

To: ham-digital@ucsd.edu

In a rec.radio.amateur.digital.misc article, Daniel Curry (pineapp@netcom.com) recently wrote:

-> I have an AEA PK-232 that was upgraded to a PK-232MBX. I'd like
->to use this for 2 meter tcp/ip. The question is do I need to have a
->battery install in the PK-232? The reason for the question is that when I
->purchased the PK-232 the manual stated don't put batteries in. With the
->upgrade kit it came with a NiCd battery. I haven't installed the NiCd.

I run my AEA PK-232MBX on TCP/IP 24 hours and it has the battery in it.
Don't see how it could hurt...

GL, OM!

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===== FROM =====  
Brian Battles, WS10                      Features Editor, QST Magazine, ARRL HQ  
Internet: bbattles@arrl.org              Newington, CT USA  
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Date: 31 Aug 1994 16:28:36 -0400
From: agate!darkstar.UCSC.EDU!news.hal.COM!olivea!charnel.ecst.csuchico.edu!nic-
nac.CSU.net!usc!elroy.jpl.nasa.gov!swrinde!gatech!udel!news.sprintlink.net!
redstone.interpath.net!mercury.interpath.@
Subject: TAPR2 TNC Mods; Bit Regeneration?
To: ham-digital@ucsd.edu

'I'm in the process of building and installing a 1200 baud bit
regenerating full duplex packet repeater for the PacketCluster
group in this area. (Yes I know you can repeat 1200 baud fairly
reliably through a standard voice repeater, and we are already
up and running in that mode with DCD control of the repeaters's
PTT. For a number of reasons we will be changing over to bit
regeneration.)

It's been a real struggle finding info on how to modify a TAPR
-2 clone TNC (MFJ-1270) for bit regeneration repeater operation.
So far I've not found an already engineered solution.

Heres what I have found:

1) Discussions via Internet with several who had done bit
regeneration modifications to non-TAPR 2 TNCs did not apply
to TAPR-2 clone TNCs because the Txdata and Rxdata switching is
different.

2) I was told that the TAPR journals had several articles on 1200 baud bit regeneration mods for TAPR-2 clones. I purchased all of the TAPR back issues. Almost nothing regarding the subject was contained within them. Lot's of mention by people using packet rengerating repeaters (mostly 9600 baud) or advocating the use of them, but nothing in the way of how to mod a TAPR-2 TNC for 1200 baud bit regeration.

3) Someone told me PacComm sold an EPROM for TAPR-2 TNCs that turned the TNC into a 1200 baud bit regenerator including a FIFO elastic buffer. After four phone calls to TAPR no one there has yet to FAX me specs on this EPROM. Although they say they have it (\$30.00 each), I have been unable to get anyone there to give me me ANY technical description of it. I don't know if it reallly exists or whether it works only with their hardware, etc.

So can you point me toward a solution or share details on how you have modified a TAPR-2 for this purpose ?

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Date: 31 Aug 1994 20:44:48 +0200
From: ihnp4.ucsd.edu!ucsnews!newshub.sdsu.edu!nic-nac.CSU.net!usc!
howland.reston.ans.net!EU.net!sun4nl!news.nic.surfnet.nl!tuegate.tue.nl!
news.iaehv.nl!news.iaehv.nl!not-for-mail@network.ucsd.
Subject: wanted: tnc firmware with netrom
To: ham-digital@ucsd.edu

Hello packeteers,

I am looking for firmware for my tnc2. It should have netrom capabilities. I currently have tapr 1.1.8 and wa8ded 2.6 and nord><link 2.3c.

My local bbs has no others.

Is there any ftp site or other medium that has rom images online???
Newer versions of tapr wa8ded and nord><link are also welcome.

by the way nord><link2.3c supports dama.

greetings jan verhoeven janv@iaehv.nl

End of Ham-Digital Digest V94 #292
